

# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER OF PATENTS AND TRADEMARKS Washington, D.C. 20221 www.nspto.gov

		The same of the sa	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNET BUCKET NO.			
09/942,241	08/29/2001	Krishan Chari	. 82300D-W	9136		
7:	590 02/26/2003					
Paul A. Leipold			EXAMINER			
Patent Legal St	Patent Legal Staff			FORMAN, BETTY J		
Eastman Kodal	c Company					
343 State Street			ART UNIT	PAPER NUMBER		
Rochester, NY	14650-2201		1634	5		
			DATE MAILED: 02/26/2003			

Please find below and/or attached an Office communication concerning this application or proceeding.

	Amplication	No.	Applicant(s)					
,	Application	NO.	• • • • • • • • • • • • • • • • • • • •					
	09/942,241		CHARI ET AL.					
Office Action Summary	Examiner		Art Unit	, ,				
	BJ Forman		1634	Idross				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply								
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).  Status								
1)⊠ Responsive to communication(s) filed on <u>06 January 2003</u> .								
2a) This action is <b>FINAL</b> . 2b) ☐ Th	is action is no	n-final.						
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims								
4)⊠ Claim(s) <u>1-34</u> is/are pending in the application.								
4a) Of the above claim(s) is/are withdrawn from consideration.								
5) Claim(s) is/are allowed.								
6)⊠ Claim(s) <u>1-34</u> is/are rejected.								
7) Claim(s) is/are objected to.	7) Claim(s) is/are objected to.							
8) Claim(s) are subject to restriction and/or election requirement.								
Application Papers								
9) The specification is objected to by the Examiner.								
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.								
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.								
If approved, corrected drawings are required in reply to this Office action.								
12) The oath or declaration is objected to by the Examiner.								
Priority under 35 U.S.C. §§ 119 and 120								
13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).								
a) ☐ All b) ☐ Some * c) ☐ None of:								
1. Certified copies of the priority documents have been received.								
2. Certified copies of the priority documents have been received in Application No								
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.								
14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).								
a) ☐ The translation of the foreign language provisional application has been received.  15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.								
Attachment(s)								
Notice of References Cited (PTO-892)     Notice of Draftsperson's Patent Drawing Review (PTO-948)     Notice of Draftsperson's Patent Drawing Review (PTO-948)     Notice of Draftsperson's Patent Drawing Review (PTO-948)     Notice of References Cited (PTO-892)	5	Notice of Informal	y (PTO-413) Paper N Patent Application (P					

Art Unit: 1634

#### FIRST ACTION ON THE MERITS

## Election/Restrictions

1. Applicant's election without traverse of Group I, Claims 1-34 in Paper No. 4 is acknowledged.

Applicant's cancellation of non-elected Claims 35-40 is acknowledged.

Claims 1-34 are pending and discussed below.

### Claim Rejections - 35 USC § 112

- The following is a quotation of the second paragraph of 35 U.S.C. 112:
   The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 3. Claims 1-26 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- a. Claims 1-26 are indefinite in Claim 1 because it is unclear whether the fluid in which the microspheres are dispersed is the gelling agent (or precursor) or whether the composition comprises two separate non-mixed components or whether the composition comprises the two components on the substrate. It is suggested that Claim 1 be amended to clarify.
- b. Claim 2 is indefinite for the recitation "said substrate is characterized by an absence of specific sites capable of interacting physically or chemically with the microspheres" because it is unclear whether a type of "specific sites" is absent from the substrate or whether the substrate has only non-specific sites for interaction with the microspheres. It is suggested that Claim 2 be amended to describe the components of the microspheres e.g. replace the

Art Unit: 1634

above recitation with "is not premarked and does not comprise pre-etched microwells" (page 3, lines 10-13).

- c. Claim 2 is further indefinite for the recitation "said substrate is characterized...." because the claim is drawn to a composition comprising a 1) gelling agent or precursor and 2 microspheres dispersed in a fluid. The composition of Claim 2 does not comprise a substrate. Therefore, it is unclear what limitations the substrate characterization imposes upon the components of the composition. It is suggested that Claim 2 be amended to describe the components of the composition.
- d. Claims 4-8 and 24 are indefinite in Claim 4 for the recitation "the microspheres can bear surface active sites" because it is unclear whether the microspheres have active sites or whether the microspheres have some other undescribed property for active site attachments. It is suggested that Claim 4 be amended to describe the components of the microsphere e.g. replace "can bear" with "are chemically functionalized" (page 7, lines 21-22).
- e. Claim 5 is indefinite for the recitation "the surface active sites can carry organic or inorganic attachments" because it is unclear whether the active sites carry organic or inorganic attachments or whether the active sites have some other undescribed property. It is suggested that Claim 5 be amended to describe the components of the active site e.g. delete "can".
- f. Claim 6 is indefinite for the recitation "the surface active site is capable of chemical or physical interaction" because it is unclear whether the active sites interacts chemically or physically or whether the active sites have some other undescribed property. It is suggested that Claim 5 be amended to describe the components of the active site.
- g. Claim 25 is indefinite for the recitation "less than 30 weight percent of a crosslinking agent" because the syntax is confusing and therefore it is unclear what percent limitations are being claimed. It is suggested that the claim be amended to clarify.
- h. Claim 34 is indefinite because it depends from the microarray of Claim 25. However, Claim 25 is drawn to a composition. Therefore, it is unclear what limitations are being

Art Unit: 1634

imposed upon the composition of Claim 25. It is suggested that Claim 34 be amended to clarify.

# Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
- 5. Claims 1-11, 15-24, 27-29 and 31-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Walt et al. (WO 00/16101, published 23 March 2000).

Regarding Claim 1, Walt et al disclose a coating composition comprising a gelling agent and microspheres dispersed in a fluid (page 22, lines 9-22) wherein upon coating the composition on a substrate, said microspheres become immobilized in the plane of coating and form a random pattern on the substrate i.e. the microspheres are held in place by the gelling agent (page 22, lines 15-16). As stated above, it is unclear whether the gelling agent (or precursor) and the microspheres in fluid are combined or mixed into a composition or whether

Art Unit: 1634

the composition exists on substrate. For purposes of examination, the claim is interpreted as a composition on a substrate.

Additionally, the courts have state that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) see MPEP 2113. As such, the functional language "upon coating the composition on a substrate" does not define the instant composition over the composition of Walt et al because they teach the product as claimed i.e. comprising a gelling agent and microspheres wherein the microspheres are immobilized in the plane of coating and form a random pattern on the substrate.

Regarding Claim 2, Walt et al disclose the composition wherein the substrate is characterized by an absence of specific sites capable of interacting with the microspheres i.e. the substrate is planar and therefore is characterized by the absence of specific sites e.g. wells capable of physically interacting with the microspheres (page 7, line 14).

Regarding Claim 3, Walt et al disclose the composition wherein the random pattern is preserved (i.e. held in place) upon gelling of the gelling agent (page 22, lines 15-16).

Regarding Claim 4, Walt et al disclose the composition wherein the microspheres can bear surface active sites (page 9, lines 24-28).

Regarding Claim 5, Walt et al disclose the composition wherein the surface active sites can carry organic or inorganic attachments (page 10, lines 2-29).

Regarding Claim 6, Walt et al disclose the composition wherein the surface of the active site is capable of chemical or physical interaction (page 10, lines 2-29).

Regarding Claim 7, Walt et al disclose the composition wherein the surface active site is bioactive (page 10, lines 2-29).

Art Unit: 1634

Regarding Claim 8, Walt et al disclose the composition wherein the bioactive site interacts with nucleic acid, protein or fragment thereof (page 10, lines 2-10).

Regarding Claim 9, Walt et al disclose the composition wherein the microsphere contains a signature (page 16, lines 15-33).

Regarding Claim 10, Walt et al disclose the composition wherein the signature is comprised of an oil-soluble dye i.e. the dye is dissolved in an organic solvent (page 17, lines 21-31).

Regarding Claim 11, Walt et al disclose the composition wherein the signature is interrogatable by optical means (page 16, lines 15-33).

Regarding Claim 15, Walt et al disclose the composition wherein the microspheres have a mean diameter of between 1 and 50 microns (page 9, lines 21-23).

Regarding Claim 16, Walt et al disclose the composition wherein the microspheres have a mean diameter of between 3 and 30 microns (page 9, lines 21-23).

Regarding Claim 17, Walt et al disclose the composition wherein the microspheres have a mean diameter of between 5 and 20 microns (page 9, lines 21-23).

Regarding Claim 18, Walt et al disclose the composition wherein the microspheres are immobilized at a concentration of between 100 and 1 million microspheres per cm<sup>2</sup> (page 6, lines 21-24).

Regarding Claim 19, Walt et al disclose the composition wherein the microspheres are immobilized at a concentration of between 1,000 and 200,000 microspheres per cm<sup>2</sup> (page 6, lines 26-28).

Regarding Claim 20, Walt et al disclose the composition wherein the microspheres are immobilized at a concentration of between 10,000 and 100,00 microspheres per cm<sup>2</sup> (page 6, lines 21-28).

Regarding Claim 21, Walt et al disclose the composition wherein the microspheres comprise a synthetic or natural polymeric material (page 9, lines 11-18).

Art Unit: 1634

Regarding Claims 22-23, Walt et al disclose the composition wherein the polymeric material is an amorphous polymer i.e. polystyrene (page 9, lines 11-18).

Regarding Claim 24, Walt et al disclose the composition wherein the microsphere contains a surface active site comprising a functionality selected from the group consisting of carboxy, amine, epoxy, hydrazine, aldehyde and combinations thereof (page 10, lines 11-20).

Regarding Claim 27, Walt et al disclose a microarray comprising a substrate coated with a composition comprising microspheres dispersed in a fluid wherein the microspheres are immobilized at random positions on the substrate (page 22, lines 9-22). As cited above, the courts have stated that determination of does not depend on its method of production but is instead based on the product itself. The instantly claimed microarray comprises a substrate coated with a composition comprising microspheres and a gelling agent to thereby provide microspheres immobilized at random positions on the substrate. Walt et al disclose the microarray as claimed.

Regarding Claim 28, Walt et al disclose the microarray wherein the substrate is free of receptors designed to physically interaction with the microspheres i.e. the substrate is planer and therefore free of receptors (wells) for physical interaction with the microspheres (page 7, line 14).

Regarding Claim 29, Walt et al disclose the microarray wherein the random pattern is preserved (i.e. held in place) upon gelling of the gelling agent (page 22, lines 15-16).

Regarding Claim 31, Walt et al disclose the microarray wherein the microspheres bear chemically active sites (page 10, lines 2-29).

Regarding Claim 32, Walt et al disclose the microarray wherein the chemically active site is bioactive (page 10, lines 2-29).

Regarding Claim 33, Walt et al disclose the microarray wherein the substrate comprises glass or plastic (page 7, lines 3-12).

Art Unit: 1634

Regarding Claim 34, Walt et al disclose the microarray wherein the substrate is flexible i.e. optical fiber (page 7, lines 18-20). It is noted that Claim 34 depends from Claim 25. For purposes of examination, the claim is interpreted as depending from Claim 27.

6. Claims 1-8, 12-13, 24 and 27-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al. (U.S. Patent Application Publication No. 2002/0015952, filed 1 February 2001).

Regarding Claim 1, Anderson et al disclose a coating composition comprising a gelling agent and microspheres dispersed in a fluid i.e. the gelling agent fluid (¶ 81 and 86) wherein upon coating the composition on a substrate, said microspheres become immobilized in the plane of coating and form a random pattern on the substrate (¶ 131-133) i.e. the gel comprising microspheres are introduced in to tubes which are then sliced and placed on a substrate to coat the substrate microspheres immobilized in a non-specific pattern i.e. randomly (Fig. 2-3).

Regarding Claim 2, Anderson et al disclose the composition wherein the substrate is characterized by an absence of specific sites capable of interacting with the microspheres i.e. the substrate is solid surface e.g. glass slide and therefore is characterized by the absence of specific sites e.g. wells capable of physically interacting with the microspheres (¶ 133).

Regarding Claim 3, Anderson et al disclose the composition wherein the random pattern is preserved (i.e. the orientation is maintained) upon gelling of the gelling agent (¶ 131).

Regarding Claim 4, Anderson et al disclose the composition wherein the microspheres can bear surface active sites (¶ 81).

Art Unit: 1634

Regarding Claim 5, Anderson et al disclose the composition wherein the surface active sites can carry organic or inorganic attachments (¶ 81).

Regarding Claim 6, Anderson et al disclose the composition wherein the surface of the active site is capable of chemical or physical interaction (¶ 81).

Regarding Claim 7, Anderson et al disclose the composition wherein the surface active site is bioactive (¶ 81).

Regarding Claim 8, Anderson et al disclose the composition wherein the bioactive site interacts with nucleic acid, protein or fragment thereof (¶ 81).

Regarding Claim 12, Anderson et al disclose the composition wherein the gelling agent is gelatin ( $\P$  86).

Regarding Claim 13, Anderson et al disclose the composition wherein the gelling agent undergoes thermal gelation (Table 1 and  $\P$  112).

Regarding Claim 24, Anderson et al disclose the composition wherein the microsphere contains a surface active site comprising a functionality selected from the group consisting of carboxy, amine, epoxy, hydrazine, aldehyde and combinations thereof (¶ 81).

Regarding Claim 27, Anderson et al disclose a microarray comprising a substrate coated with a composition comprising microspheres dispersed in a fluid wherein the microspheres are immobilized at random positions on the substrate (¶ 81 and 131-133). As cited above, the courts have stated that determination of does not depend on its method of production but is instead based on the product itself. The instantly claimed microarray comprises a substrate coated with a composition comprising microspheres and a gelling agent to thereby provide microspheres immobilized at random positions on the substrate. Anderson et al disclose the microarray as claimed.

Regarding Claim 28, Anderson et al disclose the microarray wherein the substrate is free of receptors designed to physically interaction with the microspheres i.e. the substrate is

Application/Control Number: 09/942,241 Page 10

Art Unit: 1634

solid surface e.g. glass slide and therefore is characterized by the absence of specific sites e.g. wells capable of physically interacting with the microspheres (¶ 133).

Regarding Claim 29, Anderson et al disclose the composition wherein the random pattern is preserved (i.e. the orientation is maintained) upon gelling of the gelling agent (¶ 131).

Regarding Claim 30, Anderson et al disclose the microarray wherein the gelling agent is gelatin (¶ 86).

Regarding Claim 31, Anderson et al disclose the microarray wherein the microspheres bear chemically active sites (¶ 81).

Regarding Claim 32, Anderson et al disclose the microarray wherein the chemically active site is bioactive (¶ 81).

Regarding Claim 33, Anderson et al disclose the microarray wherein the substrate comprises glass or plastic (¶ 81).

Regarding Claim 34, Anderson et al disclose the microarray wherein the substrate is flexible i.e. flexible film (¶ 133).

# Claim Rejections - 35 USC § 103

- 7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Page 11

Application/Control Number: 09/942,241

Art Unit: 1634

8. Claims 12-14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al. (WO 00/16101, published 23 March 2000) in view of Anderson et al. (U.S. Patent Application Publication No. 2002/0015952, filed 1 February 2001).

Regarding Claim 12, Walt et al teach a coating composition comprising a gelling agent and microspheres dispersed in a fluid (page 22, lines 9-22) wherein upon coating the composition on a substrate, said microspheres become immobilized in the plane of coating and form a random pattern on the substrate i.e. the microspheres are held in place by the gelling agent (page 22, lines 15-16) wherein the gelling agent is a known gelling agent permeable to aqueous species (page 22, lines 19-22) but they do not specifically teach the gelling agent is gelatin. However, Anderson et al teach the similar composition comprising a gelling agent and microspheres dispersed in a fluid i.e. the gelling agent fluid (¶ 81 and 86) wherein upon coating the composition on a substrate, said microspheres become immobilized in the plane of coating and form a random pattern on the substrate (¶ 131-133) wherein the gelling agent is gelatin which, unlike other gelling agents, sets at a temperature below ambient temperature (¶ 86, lines 18-21). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the gelatin gelling agent of Anderson et al to the gelling agent of Walt et al to thereby use a gelling agent which gels at ambient temperature for the obvious benefits of convenience and simplicity of gelling.

Regarding Claim 13, Walt et al teach the composition wherein the gelling agent is a known gelling agent permeable to aqueous species (page 22, lines 19-22) but they do not specifically teach a gelling agent which requires thermal gelation. Anderson et al teach the similar composition wherein the gelling agent requires thermal gelation whereby the physical dimensions of the gelled composition is altered by applying heat i.e. a macro array is "shrunk" to a microarray (¶ 112). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the thermal gelation of Anderson et al to the gelling agent of Walt et al whereby a macroarray becomes a microarray by simple application

Art Unit: 1634

of heat. One of ordinary skill in the art would have been motivated apply the thermal gelation of Anderson et al to create a microarray because this method would simplify microarray production by eliminating the need for micro-scaled tools. Therefore, it would have been obvious to one of ordinary skill in the art to apply the thermal gelation of Anderson et al to the gelling of Walt et al. for the expected benefit of simplifying microarray production.

Regarding Claim 14, Walt et al teach the composition is used for a wide variety of chemical and physical interactions (pages 35-36) but they are silent regarding alkali pretreatment of the gel. Anderson et al teach their similar composition is also used for a wide variety of chemical and physical interactions and wherein the environmental conditions for reactions within the composition vary for different reactions (¶ 54). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the gelling agent of Walt et al by alkali pretreating the gelling agent as claimed based on the interaction to be detected for the obvious benefit of facilitating binding of the agents of interest as taught by Anderson et al (¶ 54).

Regarding Claim 30, Walt et al teach a microarray comprising a substrate coated with a composition comprising microspheres dispersed in a fluid wherein the microspheres are immobilized at random positions on the substrate (page 22, lines 9-22) wherein the gelling agent is a known gelling agent permeable to aqueous species (page 22, lines 19-22) but they do not specifically teach the gelling agent is gelatin. However, Anderson et al teach the similar composition comprising a gelling agent and microspheres dispersed in a fluid i.e. the gelling agent fluid (¶ 81 and 86) wherein upon coating the composition on a substrate, said microspheres become immobilized in the plane of coating and form a random pattern on the substrate (¶ 131-133) wherein the gelling agent is gelatin which, unlike other gelling agents, sets at a temperature below ambient temperature (¶ 86, lines 18-21). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the gelatin gelling agent of Anderson et al to the gelling agent of Walt et al to thereby use a

Art Unit: 1634

gelling agent which gels at ambient temperature for the obvious benefits of convenience and simplicity of gelling.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al (a) (WO 00/16101, published 23 March 2000) in view of Walt et al (b) (U.S. Patent Application Publication No. 2002/0172716 A1, filed 25 October 2000).

Regarding Claim 25, Walt et al (a) teach a coating composition comprising a gelling agent and microspheres dispersed in a fluid (page 22, lines 9-22) wherein upon coating the composition on a substrate, said microspheres become immobilized in the plane of coating and form a random pattern on the substrate i.e. the microspheres are held in place by the gelling agent (page 22, lines 15-16) wherein the microspheres contain a polymeric material (p 17, lines 21-31) and wherein dyes which provide the optical signature are entrapped within the microspheres (page 17, lines 11-12) but they do not teach the microsphere contains less than 30 percent crosslinking agent. However, Walt et al (b) teach microsphere composition whereby the amount of crosslinking agent determines microsphere pore size i.e. increasing amounts of crosslinking agents decreases pore size (¶ 7) and pores provide access to the hollow portion of the microsphere. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the microspheres for entrapping dye of Walt et al (a) with a percent crosslinking agent which provides appropriate access to the hollow portion of the microsphere for dye entrapment as suggested by Walt et al (b) for the obvious benefit of entrapping the optical signature-specific dyes.

Application/Control Number: 09/942,241 Page 14

Art Unit: 1634

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al (WO 00/16101, published 23 March 2000) in view of Chang et al (U.S. Patent No. 4,873,102, issued 10 October 1989).

Regarding Claim 26, Walt et al teach a coating composition comprising a gelling agent and microspheres dispersed in a fluid (page 22, lines 9-22) wherein upon coating the composition on a substrate, said microspheres become immobilized in the plane of coating and form a random pattern on the substrate i.e. the microspheres are held in place by the gelling agent (page 22, lines 15-16) wherein the microspheres contain a polymeric material comprising methylstyrene and divinylbenzene (page 17, lines 21-23) but they are silent regarding the polymerization method. However, emulsion polymerization preparation of microspheres was well known in the art at the time the claimed invention was made as taught by Change et al (Example 1, Column 6, lines 25-57) wherein the method provides microspheres of very narrow size range. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the emulsion polymerization of Change et al to the microspheres of Walt et al to thereby provide microspheres of a uniform size as taught by Chang et al (Column 6, lines 26-28) for the obvious benefits of providing consistent microsphere surface area for surface interaction and thereby controlling interaction uniformity.

#### Conclusion

Art Unit: 1634

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

BJ Forman, Ph.D. Patent Examiner Art Unit: 1634

February 13, 2003